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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/090,358 06/04/98 LOPRETE J 60.298-038

QM02/0228

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EXAMINER

TORRENTE, D

ART UNIT

PAPER NUMBER

3746

DATE MAILED:

02/28/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/090,358

Applicant(s)

LOPRETE ET AL.

Examiner

David J. Torrente

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2000 and 22 February 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 12-14 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 8 and 15 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
 2. ☐ received in Application No. (Series Code / Serial Number) _____.
 3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☐ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

- 17) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-7, 12-14 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sisk, et al. (4,137,798), in view of Wallis (5,803,716).
3. Sisk discloses a drive means for a compressor (see Col. 1, lines 12-15), comprising a reversible (bi-directional) rotary electric motor (18), said motor being operable to be driven in one direction at a first speed of rotation and cause an orbiting scroll to cyclically orbit in a forward direction at a first rate which is approximately equal to said first speed, and said motor being operable to be rotated in an opposed direction at said first speed, said orbiting scroll being caused to move in said forward direction when said motor is driven in said opposed direction at a rate which is different from said first rate by a mechanical transmission (16) [See Col. 1, lines 45-57]. Said different rate (i.e., when said motor is rotated in a reverse direction) is lower than said first rate. Said mechanical transmission includes a planetary gear transmission (Col. 2, lines 55-60). Said gear transmission provides a gear reduction. A one-way clutches (38) selectively transmits rotation from a motor shaft to said orbiting scroll when said shaft is driven in said one and said opposed directions (Col. 3, lines 25-50). In other words, the clutch binds shaft (12) to planet carrier (24) when the shaft rotates in a forward direction, but allows relative motion when

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the shaft rotates in a reverse direction. Operation of Sisk's device is the same regardless of the type of clutch, which is a matter of design convenience (Col. 4, lines 1-5). Sisk's gear transmission is located between a shaft portion and the undisclosed compressing means.

4. Sisk does not disclose the particular style of compressor to be driven by the disclosed drive means. Wallis, for example, discloses some of the advantages of scroll compressors which were known in the art at the time of the invention. From Col. 1, lines 23-24, Wallis describes the basic scroll machine and one of its greatest advantages, high efficiency. The scroll compressor disclosed by Wallis includes an orbiting scroll (58) driven by an eccentric (34).

5. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the drive apparatus of Sisk to include a scroll compressor such as disclosed by Wallis, in order to advantageously capture the compression efficiency known to be inherent to scroll compressors, optimize the compressor efficiency by reducing capacity under low load conditions, and/or accomplish capacity modulation with a reversible motor.

Allowable Subject Matter

6. Claims 8 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Response to Arguments

7. Applicant's arguments filed 22 February 2000 have been fully considered but they are not persuasive.

8. Applicant claims that the instant invention differs from the prior art by rotating the orbiting scroll at approximately the same speed as the motor when the motor turns in a forward direction. However, Col. 3, lines 35-40 teach that when the motor rotates clockwise (as viewed in Figs. 2 and 3), "there being no relative motion between the sun, planetary, and ring gears inasmuch as they are essentially locked together to rotate at the speed of rotation of drive shaft 12." Drive in both directions passes nominally "through" the planetary transmission only in the sense that said transmission is located between the motor and the compressor. The combination of Sisk, et al. in view of Wallis still meets the rejected claims.

9. The combination of Wallis and Sisk, et al. is proper. Col. 3, lines 55-58 teach that "[R]egardless of which direction drive shaft 12 rotates, driven shaft 14 will always rotate in the same direction. The speed of rotation of the driven shaft will, of course, be greater when shaft 12 rotates in a clockwise sense." It is clear that a scroll compressor is in no danger of damage due to reverse rotation of the driven shaft. Sisk clearly contemplates applying the device to drive a compressor. If Sisk did not contemplate a scroll compressor, it clearly would have been obvious to combine Sisk's device with a scroll compressor for the reason set forth in the rejection above.

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Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Torrente whose telephone number is (703) 306-5535. The examiner can normally be reached on M-Th, 6:30 AM - 4:00 PM, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on (703) 308-0102. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3588 for regular communications and (703) 308-7763 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


DJT

February 23, 2000


Timothy S. Thorpe
Supervisory Patent Examiner
Group 3700